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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,261	12/29/2000	Prosenjit Ghosh	42390P10242	8967

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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

7

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-7

Office Action Summary

Application No.

09/751,261

Applicant(s)

GHOSH, PROSENJIT

Examiner

Jennifer A Boyd

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Amendment A, submitted as Paper No. 6 on February 14, 2003, has been entered. Claims 1, 3, 6, 10, 15, 16, 20, 22 and 23 have been amended and claim 2 has been cancelled. The pending claims are 1 and 3 – 28. The Examiner withdraws the objection to claim 6 as set forth in paragraph 1 of Paper No. 4. Amendment A is sufficient to withdraw the 35 U.S.C. 112, second paragraph rejections to claims 3, 4, 5, 16, 17, 18, 23, 24 and 25 as set forth in paragraphs 2 – 5 of Paper No. 4. Despite these advances, the invention is not found to be patentable for the reasons detailed herein below.

2. It should be noted that according to the first revision of the MPEP 8th Edition, two copies of the amended claims are no longer required. Only one copy is necessary containing all currently pending claims indicating the status of each claim as original, amended or new.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

4. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 20 is awkward due to the phrase “means for to”. Please clarify.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Mayer (US 1,699,302). A discussion of said rejection can be found in paragraphs 7 – 8 of Paper No. 4.

8. Claims 1 and 3 – 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bovenschen (US 5,384,185). A discussion of said rejection can be found in paragraphs 9 – 18 of Paper No. 4.

Claim 1 has been amended such that the preamble now reads “an apparatus” rather than a “thermal interface material”. It should be noted that the Examiner has given no patentable weight to “an apparatus”. Furthermore, it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Additionally, claim 1 has been amended to include “when compressed between a first

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surface and a second surface, to transfer heat between the first and second surfaces”. It should be noted that the Examiner considers the amendment to be a “capable of” type limitation. It has been held that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

In re Hutchison, 69 USPQ 138.

9. Claims 10 - 28 are rejected under 35 U.S.C. 102(a)(e) as being anticipated by Webb (US 6,542,371).

Webb is directed to a high thermal conductivity heat transfer pad (Title).

As to claims 10 - 11 and 20 - 21, Webb teaches that a thermal pad, equated to Applicant’s “thermal interface”, for use in facilitating heat flow between a heat source surface, equated to Applicant’s “heat source” and a heat sink surface, equated to Applicant’s “thermal plate”, includes a carbon fiber fabric (Abstract). The heat sink 40 is used to facilitate the heat removal from the IC package 34. The thermal pad 32 is located between the IC package 34 and heat sink 40 to reduce the thermal resistance of the interface, thus increasing the heat flow away from the package 34 (column 5, lines 50 – 67 and column 6, lines 1 – 5 and Figure 3).

As to claims 12 and 26, Webb teaches that the “thermal interface” can be a matted or felted fabric (column 5, lines 24 – 25), which would inherently have a random pattern.

As to claims 13 and 27, Webb teaches that the “thermal interface” can comprise a lattice. A lattice is defined as “an open framework made of strips of metal, wood or similar material overlapped or overlaid in a regular, usually crisscross pattern” (The American Heritage

Dictionary of the English Language: 4th Edition, 2000). Therefore, a lattice structure would have overlaid or “stacked” elements”.

As to claims 14 and 28, Webb teaches that the “thermal interface” can be a woven fabric (column 3, lines 8 – 35 and column 5, line 18).

As to claims 15 and 22, Webb teaches that the “thermal interface” can be impregnated with a thermal substance (column 4, lines 1 – 5). The thermal substance, equated to Applicant’s “thermal medium”, can include any of a wide variety of materials that will perform a gap-filling function within the interstice between the heat transfer surfaces during the periods of operation (column 4, lines 11 – 15).

As to claims 16 and 23, Webb teaches that the “thermal interface” can comprise metallic thread (column 5, lines 35 – 37).

As to claims 17 – 18 and 24 - 25, Webb teaches that the “thermal interface” can comprise carbon fibers (column 3, lines 10 – 13), which are known in the art to be non-metallic fibers.

As to claim 19, Webb teaches that the thermal substance, or “thermal medium”, typically consists of a binding agent (column 4, lines 15 – 17). When the thermal interface comprising the thermal substance is applied to the first surface, the binding agent would assist in the adhesion of the interface to the surface.

Response to Arguments

10. Applicant’s arguments filed February 14, 2003, as Paper No. 6, have been carefully considered but they are not persuasive.


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11. Claim 1 has been amended to include "when compressed between a first surface and a second surface, to transfer heat between the first and second surfaces". It should be noted that the Examiner considers the amendment to be a "capable of" type limitation. It has been held that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jennifer Boyd
April 29, 2003


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